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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,279	12/01/2003	Michael Lee Millard	13DV-14033 (07783-0114)	1830
31450	7590	09/29/2005	EXAMINER	
MCNEES WALLACE & NURICK LLC 100 PINE STREET P.O. BOX 1166 HARRISBURG, PA 17108-1166			LOPEZ, CARLOS N	
			ART UNIT	PAPER NUMBER
			1731	

DATE MAILED: 09/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/725,279

Applicant(s)

MILLARD ET AL.

Examiner

Carlos Lopez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 13-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 4-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/01/03.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

Applicant's election with traverse of claims 1-12 in the reply filed on 8/15/05 is acknowledged. The traversal is on the ground(s) that see applicant's response pages 1-5.

In regard to applicant's first argument, as noted by applicant drills and lasers as noted in paragraph 3 of the specification can provide holes and channels to ceramic matrix. Applicant's claims 13-24 are directed to a product having the noted holes and channels, hence clearly showing that the claimed product can be made by a different method.

In regards to applicant's second argument and third arguments, the purpose of nothing that both groups of claims have separate classification is to show that there is a serious burden, among other reasons, in accordance to MPEP 803. MPEP section 803 notes "For purposes of the initial requirement, a serious burden on the examiner may be prima facie shown if the examiner shows by appropriate explanation of separate classification, or separate status in the art, or a different field of search as defined in MPEP § 808.02." Since applicant has not rebutted the prima facie shown by appropriate showing or evidence as noted in MPEP 803, except for the argument noted above, applicant's argument is found unpersuasive.

As for applicant's fourth argument, as noted above the inventions are deemed independent. The product claims only require for a silica matrix having holes and channels for which, while the claimed process may make it, applicants own specification

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notes that other process such as lasers and drills can make it. Hence, the claimed product does not require the claimed process to make holes and channels in a ceramic matrix. Consequently, the claimed groups are deemed as being independent.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Objections***

Claims 4-10 are objected to because of the following informalities: Typing error in claim 4 reciting "at east one a ply". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Jessen (US 5,858,513). Jessen discloses a method of making channeled ceramic structures. The method comprise: providing at least one ply of ceramic fiber material which is deemed as the threading of a ceramic fiber material onto a screen basket (see Jessen's example); the claimed stitching of at least one fugitive thread is deemed as the stitching of the fugitive fibers alternatively on the ceramic fiber ply as noted in Jessen's example; the claimed infiltration of with ceramic slurry is deemed as the immersing the screen basket in a matrix precursor solution of ceramic material noted in Jessen's example; the claimed consolidation is deemed as the drying the infiltrated screen basket

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as noted in Jessen's example; and the claimed sintering is deemed as the heat treatment of the ceramic structure to remove the fugitive fibers and leaving channels in the ceramic matrix as noted in Col 6, lines 26ff and in figure 3 which shows no damage to the ceramic fiber material.

As for claim 2, the weaved ceramic fibers onto the screen basket forms the claimed ceramic felt or cloth.

As for claim 3, the fugitive thread is a carbon fiber as noted in Col. 5, line 49, or of polymeric composition, which encompasses the claimed nylon, polyester, and rayon polymer fibers.

As for claim 11, the fugitive fibers can have a diameter up to 150 microns, .005inches, (See col. 3, lines 43-45), hence the formed channel holes would have a corresponding diameter.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jessen (US 5,858,513). Jessen discloses the use of carbon fiber in order to be removed, burned off, during a heat treatment to create channels in the silica matrix. While Jessen does not disclose the use of cotton fibers, it would be obvious to a person of ordinary skill in the art at the time the invention was made to have used cotton fibers

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since they still provide channels to the ceramic matrix and are easily burned off, requirements considered by Jessen in selecting polymer and carbon based fibers.

As for claim 12, Jessen notes that the ceramic matrix may have 10% and up to 80% volume of channels, thus it would be obvious to a person of ordinary skill in the art to have expected Jessen's matrix to have the claimed airflow rate.

### ***Allowable Subject Matter***

Claims 4-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the cited prior art fails to disclose or reasonably suggest inking the predetermined pattern on at least one ply prior to the claimed step of stitching as recited in claims 4-10.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited prior art not applied in the above rejections have been cited to show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lopez whose telephone number is 571.272.1193. The examiner can normally be reached on Mon.-Fri. 8am - 5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571.272.1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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